

A Project Report on

Railway E-Ticket Reservation System

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CERTIFICATE

✚ This is to certify that the project entitled as “Railway E-Ticket Reservation System” is a bona-fide report of the work carried out by

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of Department of Computer Engineering, semester **VI**, under the guidance and supervision of **Prof. Ankit P Vaishnav** and **Prof. Prashant M. Jadav** for the subject **Service Oriented Computing** during the academic year 2021-2022.

Project Guide

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Abstract:

The project objective is to book Train tickets in advance. The Ticket Booking System is an Internet based application that can be accessed throughout the Net and can be accessed by anyone who has a net connection. This application will reserve the tickets. This online ticket reservation system provides a website for a Railway Ticket where any user of internet can access it. User is required to login to the system booking the tickets.

Customer information centres at the railway stations are unable to serve such queries at peak periods. The number of the reservation counters available to the passengers and customers are very less. On most of the reservation systems there are long queues, so it takes a long time for any individual to book the ticket. As now there are no call centres facilities available to solve the queries of the passengers.

The train ticket booking system aims to develop a web application which aims at providing trains details, trains availability, as well as the facility to book ticket in online for customers.

Introduction:

Tools/Technologies Used:

Technologies:

- HTML
- CSS
- ASP .NET (with C#)
- WCF services

Tools:

- Visual Studio 2022
- Google Chrome
- Microsoft SQL Server Management Studio

Software Requirement Specifications:

Users of the System:

- Two types of users should be able to use the system: **user** and **administrator**.
 - Users who visit the website and book tickets for the particular train.
-

Non-Functional Requirements:

1. Portability

System running on one platform can easily be converted to run on another platform.

2. Reliability

The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended.

3. Availability

The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs.

4. Security

Secure access of confidential data (customer information).

5. User friendly

System should be easily used by the customer.

6. Performance

Performance should be fast.

7. Efficient

System should be efficient that it won't get hang if heavy traffic of order is placed.

8. Safety

Data in the database of system should not loss or damage.

9. Privacy

Personal data of the system should not disclose to anyone.

Functional Requirements:

1. User Management:

- 1.1 Register User
- 1.2 Update Details
- 1.3 Delete User
- 1.4 Logout

2. Train Management:

- 2.1 Add Trains
- 2.2 Add Train Routes
- 2.3 Change Train Availability
- 2.4 Deactivate Train Status

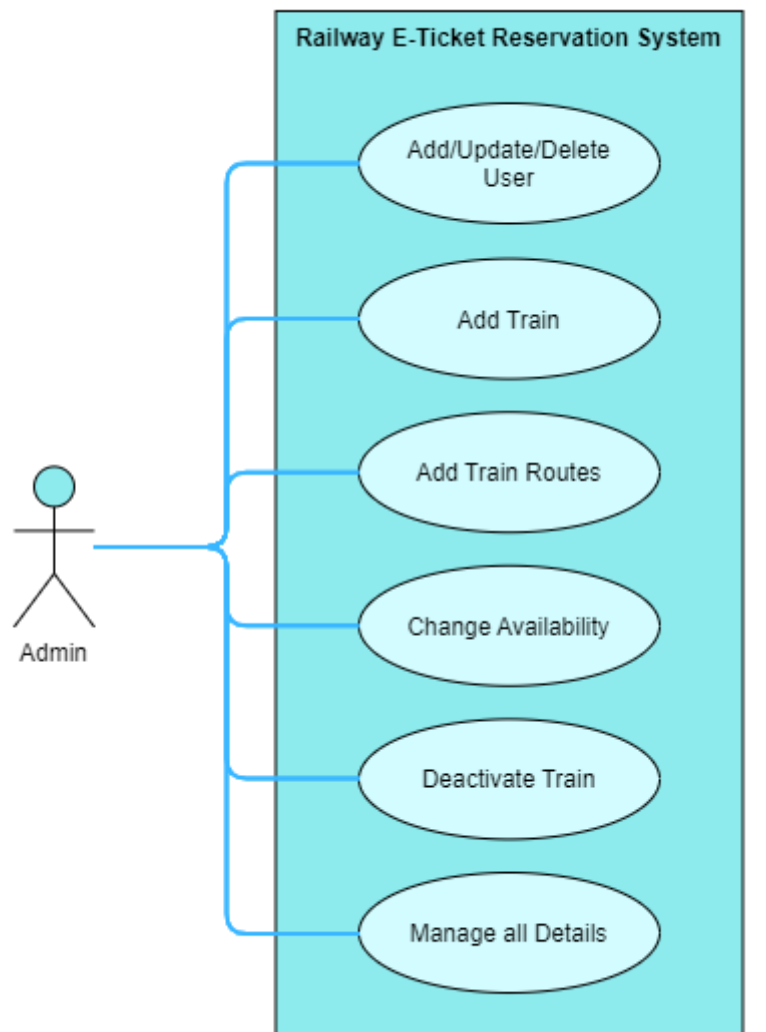
3. Booking:

- 3.1 Ticket booking
- 3.2 Ticket Cancellation
- 3.3 Cancel booking
- 3.4 Display Bookings

Design Documents:

Use Case Diagram:

Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition

Class Diagrams:

Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition

Data dictionary:

❖ User:

darshankparmar\LO...System - dbo.Users		darshankparmar\LO...ystem - dbo.Trains	
	Column Name	Data Type	Allow Nulls
🔑	userId	uniqueidentifier	<input type="checkbox"/>
	userName	nvarchar(50)	<input type="checkbox"/>
	firstName	nvarchar(50)	<input type="checkbox"/>
	lastName	nvarchar(50)	<input type="checkbox"/>
	email	nvarchar(70)	<input type="checkbox"/>
	mobileNo	nvarchar(40)	<input type="checkbox"/>
	gender	nvarchar(30)	<input type="checkbox"/>
	address	nvarchar(MAX)	<input type="checkbox"/>
	password	nvarchar(MAX)	<input type="checkbox"/>
	isActive	nvarchar(MAX)	<input type="checkbox"/>
	cretedAt	datetime	<input type="checkbox"/>
			<input type="checkbox"/>

❖ Train:

darshankparmar\LO...System - dbo.Users		darshankparmar\LO...ystem - dbo.Trains	
	Column Name	Data Type	Allow Nulls
🔑	trainId	uniqueidentifier	<input type="checkbox"/>
	trainNo	int	<input type="checkbox"/>
	trainType	nvarchar(50)	<input type="checkbox"/>
▶	availability	int	<input type="checkbox"/>
	isActive	nvarchar(MAX)	<input type="checkbox"/>
	cretedAt	datetime	<input type="checkbox"/>
			<input type="checkbox"/>

❖ Routes:

darshankparmar\LO...stem - dbo.Routes			
	Column Name	Data Type	Allow Nulls
▶	routeId	uniqueidentifier	<input type="checkbox"/>
	[from]	nvarchar(50)	<input type="checkbox"/>
	[to]	nvarchar(50)	<input type="checkbox"/>
	sTime	nvarchar(MAX)	<input type="checkbox"/>
	eTime	nvarchar(MAX)	<input type="checkbox"/>
	trainId	uniqueidentifier	<input type="checkbox"/>
	price	int	<input type="checkbox"/>
			<input type="checkbox"/>

Implementation Detail:

Function prototype which implements major functionality:

❖ UserService

```
[ServiceContract]
1 reference
public interface IUser
{
    [OperationContract]
    1 reference
    bool AddUser(User user);

    [OperationContract]
    1 reference
    bool UpdateUser(User user);

    [OperationContract]
    1 reference
    bool DeleteUser(Guid userId);

    [OperationContract]
    1 reference
    User FindUser(Guid userId);

    [OperationContract]
    1 reference
    IEnumerable<User> GetUsers();
}
```

❖ TrainService

```
[ServiceContract]
1 reference
public interface ITrain
{
    [OperationContract]
    1 reference
    bool AddTrain(Train train);

    [OperationContract]
    1 reference
    bool DeactiveTrain(Guid trainId);

    [OperationContract]
    1 reference
    bool UpdateAvailability(Guid trainId, int n);

    [OperationContract]
    1 reference
    IEnumerable<Train> GetTrains();
}
```

❖ RoutesService

```
[ServiceContract]
1 reference
public interface IRouteService
{
    [OperationContract]
    1 reference
    bool AddRoute(Route route);

    [OperationContract]
    1 reference
    IEnumerable<Route> GetRoutes();
}
```

Testing:

❖ Add User

User Name

*Required

First Name

*Required

Last Name

*Required

Email address

*Required

Mobile Number

*Required

Gender

Male ▾

Address

*Required

Email address

de

Please enter proper email

Mobile Number

528

Please enter 10 digit Mobile No.

Gender

❖ Add Train:

Train No

*Required

Train Type

SL

▼

Availability

*Required

Submit

❖ Add Routes:

From

*Required

Start Time

--:-- --

🕒

*Required

To

*Required

End Time

--:-- --

🕒

*Required

Price

*Required

Submit

15

Screen-shots:

Add Routes

Railway Ticket Booking Home Add Train

From

Start Time

⌚

To

End Time

⌚

Price

Submit

Add Train

Railway Ticket Booking Home

Train No

950035

Train Type

SL ▾

Availability

45

Submit

Add User

Railway Ticket Booking Home

User Name

First Name

Last Name

Email address

Mobile Number

Gender

Male ▾

Address

List of Trains

trainId	trainNo	trainType	availability	isActive	Action
2e6a1079-b0b5-ec11-a768-907841663ffe	123456	SL	50	Yes	View Routes Add Routes
2923040b-b9b5-ec11-a768-907841663ffe	321654	2S	65	Yes	View Routes Add Routes
98d1afe5-bdb5-ec11-a768-907841663ffe	186285	2A	25	Yes	View Routes Add Routes
92de5ad3-c2b5-ec11-a768-907841663ffe	321344	2S	4983	Yes	View Routes Add Routes

First 1 Last

List of Users

userName	firstName	lastName	email	mobileNo	isActive	cretedAt	Action
dkp	darshan	parmar	dkp@gmail.com	8469108864	Yes	06-04-2022 11:38:00 PM	View Update Delete
darshankparmar	Darshan	Parmar	darshanparmar639@gmail.com	7469108864	YES	06-04-2022 11:52:21 PM	View Update Delete

First 1 Last

localhost:44368 says
User Added Successfully!!

OK

Update user details:

First Name

Last Name

Email address

Mobile Number

Gender

Male

Address

Password

Update

routeId	from	to	sTime	eTime	trainId	price
744fe453-c2b5-ec11-a768-907841663ffe	Surat	Nadiad	21:27	09:27	2e6a1079-b0b5-ec11-a768-907841663ffe	120
14e31df7-c2b5-ec11-a768-907841663ffe	Surat	Nadiad	14:53	17:05	2e6a1079-b0b5-ec11-a768-907841663ffe	2313

First 1 Last

Conclusion:

Developing Event Management System enhanced our skills with c#, .NET framework and WCF Services. We learnt many technical and non-technical skills throughout the development process. Time management and Team Work are key concept that helped us to manage work flow.

Limitations and Future Extensions:

Limitations:

- There is no login module and booking module in the system

Future Extensions:

- Overcome above limitation.
- Make this system usable for client too.

Reference / Bibliography:

Following links and websites were referred during the development of this project:

- <https://stackoverflow.com/>
- <https://getbootstrap.com/>
- <https://docs.microsoft.com/en-us/dotnet/framework/wcf/guide-to-the-documentation?msclkid=d822f8feaf1e11ecbb1816c4aa1a603b>